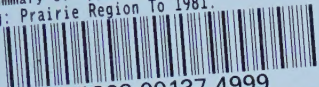


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A SUMMARY OF
"Opportunities for Manufacturing
Prairie Region to 1981"

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The Study of the Opportunities for Manufacturing in the Prairie Region to 1981, prepared by the Department of Industry and Commerce, is basically concerned with identifying the opportunities for the private manufacturing sector during the next decade.

The report is divided into three sections. The first part examines the major factors involved in the development of a viable manufacturing sector and provides a summary of the findings of the study.

A SUMMARY OF "Opportunities for Manufacturing

The second section of the report, "Opportunities for Manufacturing in the Prairie Region to 1981", is divided into three parts. The first part examines the expansion of manufacturing in the Prairie Region, the second part examines the expansion of manufacturing in the Prairie Region, and the third part examines the expansion of manufacturing in the Prairie Region.


The third section of the report, "Conclusions and Recommendations", provides a summary of the findings of the study and provides recommendations for future action.

The report is a preliminary study of the opportunities for manufacturing in the Prairie Region to 1981.

It provides a general overview of the opportunities for manufacturing in the Prairie Region to 1981. The report is a preliminary study of the opportunities for manufacturing in the Prairie Region to 1981.



January, 1972
Planning and Intelligence Branch,
Department of Industry and Commerce,
1629 - Centennial Building,
Edmonton, Alberta.



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INTRODUCTION

The Hedlin Menzies report "Opportunities for Manufacturing: Prairie Regions to 1981", prepared for the Department of Regional Economic Expansion, is basically concerned with scrutinizing the opportunities for the prairie manufacturing sector during the next decade.

The report is divided into three sections. The first part examines the many factors involved in the establishment of a viable manufacturing sector and evaluates them in a prairie context.

The second section, indicated by the appendix to this summary, projects the expansion of each industry and provides short comments on specific problems facing each industry.

The final section examines the role of the public sector, evaluates some of the more important programs and provides general guidelines for future action.

The report is a preliminary guide to manufacturing opportunities. It provides a general focus upon those areas which appear to warrant further research. The orientation of the report is suggestive rather than conclusive and it should be read accordingly.

This summary, attempts to outline and list the salient ideas of the report. It does not supplant a thorough reading of the original.

OPPORTUNITIES FOR MANUFACTURING: Prairie Region to 1981

This study, commissioned by the Department of Regional Economic Expansion and carried out by Hedlin, Menzies and Associates Ltd., has, as its purpose, "to provide an overall evaluation of manufacturing opportunities within the prairie region during the period to 1981", to identify "specific industries where further development energies should be focused", and to discuss "in a preliminary way broader questions relating to the probable impact of manufacturing upon the region's economy, and...some of the various factors and strategies relevant for prairie manufacturing growth".

The first part of this study, comprising chapters 1 to 12, focuses upon (Ch. 1) general stimuli and impediments to manufacturing growth. The first chapter provides a brief review of the prairie economy. It was concluded that the region has displayed wide variations in performance, with Alberta, in contrast to the other two provinces, being characterized by a growth rate of population and total income exceeding the national average. Employment growth rates in Alberta also tended to exceed those of Canada. Per capita income grew at approximately the national average. But as a whole, the prairie region has been characterized by a slow population and income growth, low population density, significant out-migration and significant rural-urban income disparity.

The second chapter briefly examines the changes which the prairie (Ch. 2) economic structure has undergone during the past decades. In contrast to its initial rural and primary resource-orientation, the prairie economy, during the period 1951-66, experienced significant urbanization. The five metro-

politan areas, Winnipeg, Regina, Saskatoon, Edmonton and Calgary currently account for almost half of the region's population. As a result, the prairies are presently characterized by a number of developed urban areas co-existing with major agriculturally-dominated rural areas. During this process, there has been a major employment shift from the primary industry to the service industry, with the importance of manufacturing employment remaining relatively unchanged. Despite the change in the industrial structure, this region remains heavily dependent upon the primary or resource sector which, owing to its capital intensity, has failed to generate a sustained growth of employment, thereby inhibiting employment opportunities throughout the region.

The prairie region is also characterized by a manufacturing sector whose contribution to employment and value added is less than half the Canadian average and which is virtually non-existent outside the metropolitan areas. It is suggested that the constrained manufacturing growth has thereby limited employment growth throughout the region. As of 1967, although the prairie region accounted for 16.7% of Canada's population, it accounted for only 7% of Canada's manufacturing labour force. Of the total prairie manufacturing labour force, approximately 44% was located in Alberta.

Owing to the relative importance of the primary sector, manufacturing is strongly oriented in this direction. In 1967 manufacturing related to forward-linked primary resource processing accounted for over 65% of manufacturing shipments and over 49% of manufacturing employment within the region. Prairie manufacturing is also backward-linked to the primary sector,

supplying such inputs as steel pipe, fabricated metal and agricultural implements. Despite its resource emphasis, the prairie manufacturing sector is well diversified with most industries represented within the region. Relative to the Canadian industrial structure, however, the prairie region was noticeably deficient in textiles, primary metal manufacturing, transportation equipment, electrical products and chemical manufacturing---a situation produced by such diverse factors as tariff policies, settlement patterns, shifts in world demand patterns, transportation policies, and input availability.

While the employment growth rates of many prairie industries exceeded the Canadian average during the period 1961-67, aggregate manufacturing employment did not grow as rapidly as was the case for Canada, principally as a result of the dominance of industries having relatively low employment growth rates even at the national level.

Orientation toward more rapid industrial development offers two alternative courses of action. One might either opt for a more diversified industrial structure, thereby gaining an infusion of those industries characterized by rapid growth or alternatively, one might opt for accelerated resource development and thereby stimulate resource-related manufacturing.

The relatively high reliance by prairie manufacturers upon the domestic (Ch market places added importance upon population income and market projections. Heldin, Menzies, drawing upon a number of studies, have concluded the following population projections for the year 1981: An estimated Canadian population of between 25.2 and 25.4 million, a prairie population of 3.7 to 4.1 million and an Alberta population of 1.8 to 1.9 million. It is forecast that

real Canadian gross domestic product will increase during this period, by 74.9 to 95.5% while personal disposable income in current dollars, will more than double. From this, it is concluded that domestic consumer market opportunities will not alter radically although in some instances the growth of prairie population and therefore a prairie markets will be sufficient to support industries whose products are currently imported into the region.

Despite the historical reliance of Canada upon the exportation of its manufacturing output, such has not been the case with the prairie region. In 1967 Canada exported 16.3% of its manufactured output in dollar terms versus only 6.7% for the prairie region. Because the ability to export rests heavily with the tariff structure faced by the exporting nations, a general reduction of tariff barriers would obviously enhance the prospects for prairie manufacturing. By the same token, however, tariff reductions are the product of bi-lateral negotiations and would therefore require the lowering of Canadian import tariffs which may work to the disadvantage of prairie manufacturers. Unfortunately, there is no clear indication of the comparative advantage of a general bi-lateral tariff reduction as opposed to the retention of the status quo. (Ch. 5

Foreign markets therefore remain a potential source of expanded prairie production. One of the more important markets is the United States, particularly the Upper Mid-west which has been an important market for prairie manufactured products including cattle, beef and fish, grains, lumber and other wood products, chemicals and petroleum products, fertilizers and base metals with some opportunity for such secondary manufactured products as agricultural equipment, non-agricultural tractors, trucks and bus bodies,

air and space craft parts. The California market has represented an important market for meat and aircraft while the U.S. north-west represented a market for petroleum and coal products, fertilizers, meat, certain non-metallic minerals, and prefabricated building structures.

Overseas markets also offer considerable potential. Despite the restrictive import policies and tariff barriers of Japan, consumer demand for meat products is expected to increase significantly, providing considerable opportunity for the increased exportation of beef products, pork products and feed grains. Opportunities in other pacific-rim countries appear limited and likely confined to agriculturally-based manufactured goods such as fertilizer, meat products and vegetable oils. Europe also represents an important market, but also appears to be limited to agricultural products. Finally, an immense though highly uncertain market is represented by the Peoples Republic of China. One must recognize that in overseas trade, such factors as economies of scale, transportation costs, and foreign competition, are as important as the tariff structure faced by Canadian producers.

The importance of the natural resource industries to the industrial (Ch. structure of the prairie region is indicated by the fact that over 64% of prairie manufacturing employment in 1967 occurred in industries linked directly to the resource sector. Consequently opportunity for manufacturing expansion is dependent upon activity within the resource sector. This situation is exemplified by the effects of the depressed agricultural industry upon the prairie economy as a whole. Studies of the prairie agricultural sector indicate that output is more limited by market capacity than by basic production

capabilities, and that increased production will be related to anticipated market expansion. Present agriculture forecasts indicate significant declines in wheat markets but expected increases in markets for livestock, feed grains, and rapeseed, providing significant opportunities in such industries as slaughtering and meat packing, feed mills and vegetable oil mills.

The regional mineral resources are comprised of industrial minerals, petroleum and natural gas, metallic minerals and other minerals. Industrial minerals such as sand, gravel, etc. relate chiefly to the construction industries and are readily available. Petroleum and natural gas production, though increasing over the past few years, appears to be currently restricted by the absence of major new finds. The rapid increases in mineral production throughout the prairie region particularly during the last decade, make future predictions almost impossible.

While forestry production is also expected to expand, such expansion will be constrained by markets for both wood products, whose markets are expected to increase rapidly in response to the growth of building construction, and pulp and paper products, which have experienced a historical upward trend not expected to alter significantly in the future. Nonetheless it must be recognized that the region remains a net importer of wood products, amounting to some 50 million dollars in 1967.

The availability of water resources and energy supplies eliminate this aspect as an impediment to the growth of manufacturing. Despite anticipated expansions in energy generating capacity, the majority of the capital goods are produced outside the region thereby dampening potential multiplier effects

within the region.

Research has indicated that throughout the Canadian market, the market (Ch. size is frequently insufficient to support production at minimal cost levels. This situation is particularly apparent within the prairie regional market. Cost minimization provides a continual stimulus to the concentration of production within a small number of plants. Economies of scale may be derived not only from production, but also with respect to marketing, advertising, and research.

But such economies of scale may also serve to limit entry into the market. Large organizations capable of capturing such economies are frequently able to generate sufficient internal savings to expand facilities in response either to market growth or potential market entry by competitors. These firms may also gain control of such factor inputs as raw materials and labour thereby limiting subsequent entry. Therefore significant employment growth in the prairies may require the attraction of large industrial firms.

However, the ability to attract firms is severely hampered by the market orientation of their location. Unless the prairie region offers a consumer market of sufficient size, little incentive exists for the relocation of such industries into this region. Although economies of scale are perhaps one of the most significant factors influencing the location and efficiency of economic activity, it must be recognized that the absence of large markets makes it unlikely that such large national firms could be induced to relocate within the west.

Owing to the geographical expanse of the prairie region and its relatively (Ch. 8

low population density, prairie manufacturers face significant transportation cost disadvantages. The prairie region has historically been highly reliant upon railway transportation---in 1965 over 90% of total inter-city tons of revenue freight originating within the region were shipped by rail. It appears unlikely that this reliance upon rail transport will be altered significantly within the next decade. Rail transport represents a facility that is extremely capital intensive, with relatively high fixed costs of operation and low marginal or operating costs. This feature has given rise to the tendency of railways to price their services with respect to the value of the shipments rather than to some imputed actual cost. Therefore rates are generally based upon what the traffic will bear.

The prairies are rather unique in that they are forced to bear the costs of transportation for the movement of commodities both into and out of the region. The predominant regional exports are primary products. Prices are set in the international market and hence the producers are required to take the price less transportation costs. However, the transport costs have been legislatively restricted to very low levels. Imports into the region are generally comprised of relatively highly manufactured goods. Since the prairie market is small relative to the total market served by eastern and foreign producers, the prices are again set outside the region with prairie consumers forced to pay that price plus the cost of transportation. In this case, however, no legislative restrictions exist for transportation rates and the rate structure is such as to compensate the railways for the low returns generated by their movement of primary products.

The 1967 revision of the National Transportation Act sought to reduce the regulation of transport rates and encourage competition within the transportation industry. However, the absence of prairie economic bargaining strength has helped sustain a transportation rate structure which is higher than would prevail for similar commodities and distances in eastern Canada. Concern has also been voiced with regard to two other problem areas, namely the high freight rates for shipments in specific sub-regions of the prairies, primarily rural and northern areas, and the fact that trans-continental freight rates effectively provide non-prairie manufacturers with a comparative advantage. Countless examples of transportation rate inequities indicate that the costs from eastern Canada into the prairies are equal to or in many instances significantly greater than the cost of transportation from eastern Canada to the west coast, owing to the Panama provision in the rate structure. However, it must also be recognized that owing to the excess transportation capacity, many prairie producers are able to secure very attractive backhaul rates to eastern Canada thereby increasing their competitive advantage in eastern markets.

While disparities in transportation rates may well shift the comparative manufacturing advantage between regions, it is virtually impossible to quantify the aggregate effects of freight rates upon the location of manufacturing activity. Although prairie industries may be adversely affected by transportation costs, current research is inadequate to determine the level of transport costs required to alter trade flows.

It must be noted however that high transport costs works two ways.

While they may effectively limit regional export, they may just as effectively discourage imports, thereby stimulating the local manufacture of products whose final price is greatly influenced by transportation costs. It is therefore conceivable that the current agitation for reduced transportation may ultimately work to the detriment of existing prairie manufacturing. But again there is insufficient research information available to assess the net effect.

An important consideration brought out by this study was that despite (Ch. 9) the proliferation of small firms, the larger firms continue to dominate the regional economy. In 1966, while only 20% of prairie establishments had annual sales in excess of \$500,000, these establishments accounted for 74% of the regional manufacturing employment, 88% of total manufacturing sales and 84% of manufacturing value added. In addition, between 1965 and 1968, the average proportion of manufacturing corporate taxable income attributable to non-Canadian-resident-owned companies was 60.5% in this region.

One major difference between large and small firms is the relative ability to obtain capital funds. For the established publicly-owned company, numerous sources of funds for expansion are available. These include retained earnings, earned surpluses, debentures and bond issues, stock offerings and institutional debt financing. Expansion is evaluated in terms of products and growth objectives rather than in terms of capital availability. However, for the small firm, capital acquisition represents a severe restriction, even for viable enterprises.

Nevertheless, a large number of sources of finance do exist for the smaller firm. A major source is the chartered banking system which provides

a significant volume of short term credit. Constrained by liquidity and collateral requirements, chartered banks are oriented primarily toward the financing of inventories or receivables.

Long term finance is frequently handled by specialized lending agencies, such as Roynat Ltd., Kinross Mortgage Corporation, Canadian Enterprises Development Corporation Ltd., and the Industrial Development Bank. These agencies are involved not only in the conventional long term financing, but also in such areas as venture or risk capital.

Public subscriptions, which involves the sales of shares to the general public, represents another alternative. However, the requirement that the firm have after-taxes earnings in excess of \$200,000 limits this source to very large firms and effectively eliminates this avenue of capital for most prairie manufacturing companies.

Finally, in each of the prairie provinces, the respective provincial governments have initiated lending institutions designed to assist the development of small to medium private businesses. Coupled with this is the operation of the Department of Regional Economic Expansion's incentive grants to firms in designated areas throughout the economy. But according to assessments of the A.D.A. program, the predecessor of DREE, industrial incentive grants were apparently more successful at shifting industrial location within a region rather than between regions. The efficiency of this instrument is therefore questionable.

The concern with the provision of adequate finances had led the Provincial government of the prairie region to investigate further means of

facilitating capital requirements. Among these is the development of a provincial or regional bank, similar to the establishment in British Columbia, as a means to stem the flow of funds currently being tapped from the region. It is hoped that such an institution would demonstrate greater interest and awareness with local investment opportunities.

Despite the absence of general labour force statistics for the prairie region, manpower utilization in the prairies appears to be relatively high compared to that of other Canadian regions. Mobility has been an important factor in maintaining relatively low unemployment rates. However, the out-migration appears to involve a very high proportion of the young, more highly educated and therefore apparently more productive workers of the economy. Furthermore, the continuing out-migration can only serve to increase the concentration of economic activity in the larger Canadian markets, and dampen prospects for industrial opportunities within the rural prairie areas. But it must be recognized that the prairie region does possess some industries requiring highly proficient and trained labour, such as aircraft parts, industrial chemicals and management-entrepreneurial skills in clothing and furniture, where the presence of skilled manpower tends to encourage continued growth. (Ch. 10)

Despite the favourable education levels and mobility possessed by the prairie labour force, it is acknowledged that training programs designed to increase productivity are required. While such programs may in the short-run be focused upon the acquisition of specific skills, long-run considerations dictate that the orientation be shifted to imbuing the labour force with a greater

degree of flexibility. Concern has also been expressed regarding the capability, skills and vision of the entrepreneurial and management manpower of the region, primarily with respect to their inability to realize the advantages of larger scale industry. In the case of large national firms, the tendency to concentrate planning and decision-making activity in eastern Canada has sustained a general unawareness of the prairie region's economic potential. While the impact of this factor upon the prairie industrial development is uncertain, surveys conducted in eastern Canada indicate it is important.

Recent studies have continually berated the Canadian industrial sector (Ch. 11 for the lack emphasis placed on research, development and design. This indictment holds equally, if not more so, for the prairie producers. In order to promote industrial research, both the federal and provincial governments have instituted various general assistance programs and research facilities. But despite such initiatives, the relative small size of many prairie establishments simply rules out a technically-oriented staff thereby stifling the interchange and transfer of technology.

A firm may best acquire the results and benefits of active research through the establishment of its own research facilities. However, the costs involved are justifiable only for a very large firm, which is capable of financing the research and has a significant share of the market enabling it to recover research costs through the sale of new or redesigned products.

There are many reasons for the absence of research and development facilities within the prairies. In part it is due to the relatively small size of firms although the growth of many firms is hampered by a market insufficient

to support research and development programs necessary for expansion. Instead such firms rely heavily upon borrowed or copied technology. Prairie branch plants of multinational firms rely upon results from headquarter R and D facilities. Research within the region is further stifled by the presence of many industries, such as food and beverage, which are not characterized by large research expenditures.

However, there are a group of industries whose present markets do justify research and development, either through outright purchase or in-house activity. Included among these are the furniture, clothing, and implement industries. But in many instances, because the product is not highly sophisticated, R and D basically consists of adapting existing products to Western Canada markets.

Despite the professed importance of R and D to industrial development, the absence of data effectively rules out any definite policy recommendations. However, one proposed regional strategy is oriented toward the research for technology gaps, followed by a concentrated effort within a single industrial sector--a strategy very similar to that employed by the Japanese during their post war recovery.

The appropriate posture to be taken by the government toward industrial (Ch. 14) development involves three distinct choices: the choice of objective, the choice of strategies or policies, and the choice of programs or actual tactics.

For example, the Department of Regional Economic Expansion was created in 1969, to integrate and concentrate the efforts of the federal government. Its goal is the development of widely dispersed growth with a view to

providing equally high employment and earning opportunities through Canada. To this end, DREE, utilizing a system of industrial incentives, seeks to encourage private sector investment in slow growth areas through the establishment, expansion and modernization of plants, the improvement of industrial and community infrastructure and assistance in the process of population readjustment. The posture of the DREE program entails the following choices:

1. Employment is to be increased in slow growth areas (objective)
2. Manufacturing represents the optimum method of developing additional employment (strategy) and
3. Capital grants supported by infrastructure development represent the optimum tool to this stimulation (program)

While the professed priorities of the DREE program emphasis upon improving employment growth where existing opportunities are inadequate, in practice this does not necessarily occur. Indeed, a comparison of the Maritimes with Manitoba-Saskatchewan would indicate a greater effort is placed on the elimination of unemployment than the enhancement of employment growth rates.

It is therefore of great importance that an explicit choice of objective be made, particularly now, at a time when the goal of economic growth itself is being increasingly questioned, in view of the costs associated with industrialization. It appears that industrial development may no longer be considered in isolation, but rather that it be integrated with social objectives and distributional goals. No longer is the goal solely development, for it is increasingly required that the benefits accruing from industrial development

be spread throughout the economy to the greatest extent possible.

The choice of strategy to be utilized is also an important consideration. While goal selection is subjective, given the goal, strategy selection is the product of a more technical and rational process. The combination of increased markets and increased urbanization has replaced resource exports as a growth catalyst. The trend toward urban-centered industrialization has occurred simultaneously with the tendency toward increasingly depressed conditions in rural areas, indicating that urban development does not necessarily promote and radiate growth throughout a region's rural areas.

It appears that resource and service industry strategies offer the greatest impact for job opportunities and improvements in the quality of living within rural areas. Alternatively manufacturing growth strategies appear to assist rural adjustment by providing more metropolitan jobs within the prairies. To guide industrial development along such lines necessarily requires direct and positive policy initiative. But the intervention of the government into private sector decision-making with a view to directing development requires first, that the cost-benefit implications of various strategies be examined both with respect to direct effects and indirect linkage effects and second, that such strategies be consistent with other regional goals.

Even opting for a strategy concentrating upon manufacturing growth, one is still faced by the choice of manufacturing industries offering the greatest potential and the policies or tactics best suited to developing the selected manufacturing industries. With respect to the former, it is concluded that

the optimum manufacturing firms are those strongly oriented toward the resource base of the region as well as those for which a prairie skill base already exists. Additional industries, as indicated in the appendix could be developed in the event that their problems or impediments could be overcome. Alternatively it was suggested that a strategy of attracting entirely new industries not yet represented in this region be adopted with a view to their establishment and development. This choice was adopted by the Japanese during their post-war industrialization.

Having identified prospective employment growth opportunities, one must determine the methods best suited to the development of such industries. It is concluded that in a case of those industries tied to the growth of local markets, the role of assistance grants becomes highly questionable. Indeed, it appears that such grants should be available only to those industries where assistance is required to develop new manufacturers within the prairie region. Furthermore, the policy of capital grants frequently clouds the problems confronting a particular industry. In the case of many industries where prairie opportunities do exist, growth may be restricted by specific problems; the danger exists that money grants will allow the industries to continue to function under these problems rather than attempting to resolve them. Instead, it is suggested that a variety of assistance programs related to research, development, design, production and marketing be substituted in place of a money strategy.

Further opportunities for government co-operation exists in the establishment of trading corporations or ventures to penetrate foreign markets, the

examination of industry behavior with reference to the "Combines Investigation Act, the establishment of jointly-owned crown corporations, in submissions to the Federal Government and in resolving specific problems related to prairie manufacturing.

In addition, suggested areas for further study include the following:

1. A re-examination of the rationale underlying the designation of specific areas eligible for incentive grants,
2. The effect of foreign control upon the prairie manufacturing sector with respect to regional development mechanism and strategies,
3. Further research and data development with respect to the various factors, previously outlined, which may affect the degree and timing of industrial development in the region,
4. An evaluation of inter-regional distribution affects arising from alternative strategies.

The Hedlin, Menzies report concludes that "the greater potential for prairie manufacturing growth at present lies within industries either related to the region's strong resource base or having existing strong skill base in the region. It is analyzed that such industries have major opportunities for expansion if skills, management, research and penetration of export markets are improved". With respect to the appropriate strategy, it is suggested that "a) assistance should be focused only upon those industries where action is indicated to be necessary in order to capture growth opportunities (as compared to making assistance available to all manufacturing); b) a mixture of strategies should be utilized in order to best focus effect upon distinct and different development needs (as compared, for example, to a single-money payment capital incentive strategy)".

But it is recognized by the consultants, that even direct and positive government programs will not substantively overcome such problems as the economic disparities between groups and areas within the prairies, the overall restrained employment growth during the next decade, and the relatively small manufacturing sector within the prairies as compared to other regions of Canada.

Therefore, they have suggested that prairie regional development not restrict itself solely to manufacturing growth. Alternative suggested strategies include policies to stimulate tourism, private sector growth, relocation of federal service employment, growth of public and private services in rural growth areas, and alternative resource growth and adjustment policies.

APPENDIX

Hedlin, Menzies have divided the manufacturing sector into the following three major classes: Class 1 industries which are expected to develop largely on the basis of existing growth forces, Class 2 industries where development is restricted by clearly identified problems potentially capable of amelioration by policy initiative and Class 3 industries where potential employment growth in the region during the next decade does not appear likely to exceed 100 jobs. (Ch. 12
13

Class 1 industries possess the following characteristics: These industries are highly regional market-oriented, prairie resource inputs represent an important factor, transportation usually acts as a shield assisting these industries in competing against extra-regional suppliers, scale factors and oligopolistic characteristics are significant in only a few of the constituent industries and in most instances these industries are already established within the region.

Class 2 industries are characterized as follows: Canadian and foreign markets outside the region are of major importance, economies of scale and the presence of an oligopolistic market were of greater significance than in the case of Class 1 industries, transportation structures have both beneficial and adverse effects and the combination of labour and entrepreneurship as inputs into production are considered to be significant in over 30% of the constituent firms.

The following tables set forth first the constituent types of firms within each class of industry followed by projected employment growth for each of the

respective three classes. The final table represents the aggregate prospective growth in employment within the prairie region over the next decade.

TABLE 1

SUMMARY CLASSIFICATION OF CLASS 1 INDUSTRIES:
ASSURED GROWTH PROSPECTS

<u>Group A - Moderate Growth Prospects</u> <u>(Approximately 150 - 300 employees)</u>		<u>Anticipated</u> <u>Growth</u>	
103	Poultry Processors	150 -	200
105	Dairy Factories	200 -	300
128	Biscuit Manufacturers	150 -	300
141	Soft Drink Manufacturers	200 -	300
145	Breweries	0 -	200
172	Leather Tanneries	150 -	300
175	Leather Glove Factories	+100	
252	Veneer and Plywood Mills	150 -	200
273	Paper Box and Bag	200 -	300
294	Iron Foundries	150 -	200
296	Aluminum Rolling and Casting	150 -	200
301	Boiler and Plate Works	200 -	300
307	Heating Equipment Manufacturers	200 -	300
329	Miscellaneous Vehicle Manufacturers	150 -	300
335	Communications Equipment	150 -	200
337	Battery Manufacturers	150 -	200
341	Cement Manufacturers	200 -	300
345	Gypsum Products	150 -	200
365	Petroleum Refineries	150 -	250
<u>Group B - Good Growth Prospects</u> <u>(300 - 1,000 employees)</u>			
129	Bakeries	300 -	400
139	Miscellaneous Food Industries	300 -	400
163	Tire and Tube Manufacturers	600 -	700
251	Sawmills	400 -	600
259	Miscellaneous Wood Industries	500 -	700
303	Ornamental and Architectural Metal	300 -	500
309	Miscellaneous Metal Fabricating	500 -	750
315	Miscellaneous Machinery and Equipment	500 -	1,000
325	Motor Vehicle Parts and Accessories	300 -	500
336	Electrical Industrial Equipment	400 -	600
378	Industrial Chemicals	300 -	500
381	Scientific and Professional Equipment	400 -	600
385	Plastic Fabricators NES	800 -	1,000
397	Signs and Displays	300 -	400

TABLE 1 (Continued)

SUMMARY CLASSIFICATION OF CLASS I INDUSTRIES:
ASSUMED GROWTH PROSPECTS

<u>Group C - Major Growth Prospects</u> <u>(1,000+ employees)</u>		<u>Anticipated</u> <u>Growth</u>
254 Sash, Door and Planing Mills		2,000 - 3,000
286 Commercial Printing	}	
287 Plate Making and Type-setting		
288 Publishing only		1,200 - 1,500
289 Printing and Publishing		
302 Fabricated Structural Metal		1,000 - 2,000
304 Metal Stamping, Pressing and Coating		1,500 - 1,800
308 Machine Shops		1,000 - 2,000
324 Truck Body and Trailer Manufacturers		1,500 - 2,500
347 Concrete Products Manufacturers	}	
348 Ready-Mix Concrete		1,500 - 2,000

Source: Hodlin, Menzies and Associates Ltd.

TABLE 2

CLASS 1, PRINCIPAL INDUSTRIES, EMPLOYMENT, 1967
AND EMPLOYMENT GROWTH PROSPECTS, 1971-1981

<u>Two-Digit Industry Group</u>	<u>Estimated Employment, 1967</u>		<u>Anticipated</u>
	<u>Class 1</u>	<u>Per Cent of Total</u>	<u>Growth</u>
			<u>1971-1981</u>
Food and Beverage	16,297	51.6	1,300 - 2,100
Tobacco Products	-	-	-
Rubber	x	x	600 - 700
Leather	287	34.3	150 - 400
Textile	-	-	-
Knitting Mills	-	-	-
Clothing	-	-	-
Wood	7,170	95.4	3,050 - 4,500
Furniture and Fixture	-	-	-
Paper and Allied	1,200	32.0 e	200 - 300
Printing, Publishing and Allied	9,013	100.0	1,200 - 1,500
Primary Metals	1,000	17.5 e	300 - 400
Metal Fabricating	10,530	90.6	4,700 - 7,650
Machinery	1,700	29.1	500 - 1,000
Transportation Equipment	2,500	38.9	1,950 - 3,300
Electrical Products	1,400	52.1	700 - 1,000
Non-Metallic Mineral	3,600	59.5	1,850 - 2,500
Petroleum and Coal Products	2,080	90.3	150 - 250
Chemicals and Chemical Products	1,844	47.8	300 - 500
Miscellaneous Manufacturing	2,000	x	1,500 - 2,000
All Prairie Manufacturing	60,621	52.9	18,450 - 28,100

Source: Appendix C

x = Confidential

- = Nil

e = Estimate

TABLE 3

SUBSECTOR CLASSIFICATION OF CLASS 2 INDUSTRIES:
QUALIFIED GROWTH POTENTIALS

	Anticipated Growth ^a	Additional Growth Potential ^b
101 Slaughtering and Meat Packing	1,000 - 1,500	500 - 3,000
107 Processed Cheese Manufacturers	0	0 - 300
111 Fish Products Industries	0	0 - 250
112 Fruit and Vegetable Canners and Preservers	500 - 800	0 - 1,500
123 Feed Mills	300 - 600	0 - 1,000
133 Sugar Refineries	0	0 - 600
135 Vegetable Oil Mills	50 - 150	0 - 300
143 Distilleries	0	0 - 400
174 Shoe Factories	100 - 200	0 - 600
216 Carpet Mat and Rug	0 - 100	150 - 200
239 Other Knitting Mills		
243 Men's Clothing		
244 Women's Clothing		
245 Children's Clothing	(1,000) - 3,000	0 - 7,000
248 Foundation Garments		
249 Other Clothing Industries		
261 Household Furniture		
264 Office Furniture	800 - 1,200	0 - 3,000
266 Miscellaneous Furniture		
271 Pulp and Paper Mills	750 - 1,000	0 - 4,000
274 Other Paper Converters	100 - 150	0 - 800
291 Iron and Steel Mills	200 - 400	0 - 500
292 Steel Pipe and Tube Mills	200 - 400	0 - 500
295 Smelting and Refining	400 - 500	500 - 2,000
311 Agricultural Implements	1,000 - 3,000	0 - 3,000
321 Aircraft and Parts	±1,000	0 - 2,000
323 Motor Vehicle Manufacturers	0	(200) - 200
356 Glass and Glass Products	200 - 300	400 - 600
372 Mixed Fertilizers	300 - 500	0 - 500
373 Plastics and Synthetic Resins	200 - 400	0 - 500
375 Paints and Varnishes	0 - 100	150 - 300

Source: Hedlin, Menzies and Associates Ltd.

^aGrowth based on existing framework and trends.

^bGrowth potential that could be realized if specific problems resolved.

TABLE 4

CLASS 2, PRAIRIE INDUSTRIES, EMPLOYMENT, 1967
AND EMPLOYMENT GROWTH PROSPECTS, 1971-1981

<u>Two-Digit Industry Group</u>	<u>Estimated</u> <u>Employment, 1967</u> <u>Per Cent</u>		<u>Growth Prospect 1971-1981</u>			
	<u>Class 2 of Total</u>		<u>Anticipated^a</u>		<u>Possible Additional^b</u>	
Food and Beverage	13,600	43.0	1,850 -	3,050	500 -	7,350
Tobacco Products	-	-	-	-	-	-
Rubber	-	-	-	-	-	-
Leather	450	53.8	100 -	200	0 -	600
Textile	x	x	0 -	100	150 -	200
Knitting Mills	-	-	-	-	-	-
Clothing	8,200	94.8	-1,000 -	+3,000	0 -	7,000
Wood	-	-	-	-	-	-
Furniture and Fixture	3,100	97.3	800 -	1,200	0 -	3,000
Paper and Allied	1,800	48.0 e	850 -	1,150	0 -	4,800
Printing, Publishing and Allied	-	-	-	-	-	-
Primary Metals	4,200	73.5 e	800 -	1,300	500 -	3,000
Metal Fabricating	-	-	-	-	-	-
Machinery	2,847	48.8	1,000 -	3,000	0 -	3,000
Transportation Equipment	3,500	54.5	-1,000 -	+1,000	-200 -	+2,200
Electrical Products	-	-	-	-	-	-
Non-Metallic Mineral	870	14.4	200 -	300	400 -	600
Petroleum and Coal Products	-	-	-	-	-	-
Chemicals and Chemical Products	900	23.3	500 -	1,000	150 -	1,300
Miscellaneous Manufacturing	-	-	-	-	-	-
All Prairie Manufacturing	39,467	34.5	4,100 -	15,300	1,500 -	33,050

Source: Appendix C

^aProjected trends, assuming obstacles continue.

^bPossible additional growth if existing obstacles removed.

x = Confidential

- = Nil

e = Estimate

TABLE 5

SUMMARY CLASSIFICATION OF CLASS 3 INDUSTRIES:
MARGINAL OR DECLINING GROWTH PROSPECTS

124	Flour Mills
125	Breakfast Cereal Manufacturers
131	Confectionery Manufacturers
147	Wineries
151	Leaf Tobacco Processing*
153	Tobacco Products Manufacturers
161	Rubber Footwear Manufacturers*
169	Other Rubber Industries
179	Miscellaneous Leather Products
183	Cotton Yarn and Cloth Mills*
193	Wool Yarn Mills
197	Wool Cloth Mills
201	Synthetic Textile Mills
211	Fibre Preparing Mills
212	Thread Mills*
213	Cordage and Twine Industry
214	Narrow Fabric Mills*
215	Pressed and Punched Felt Mills*
218	Textile Dyeing and Finishing Plants
219	Linoleum and Coated Fabrics Industry*
221	Canvas Products Industry
223	Cotton and Jute Bag Industry
229	Miscellaneous Textile Industries
231	Hosiery Mills
246	Fur Goods Industry
247	Hat and Cap Industry
256	Wooden Box Factories
258	Coffin and Casket Industry
268	Electric Lamp and Shade Industry
272	Asphalt Roofing Manufacturers
297	Copper and Alloy Rolling*
298	Metal Rolling, Casting and Extruding
305	Wire and Wire Products
306	Hardware, Tool and Cutlery
316	Commercial Refrigeration and Air Conditioning
318	Office and Store Machinery*
326	Railroad Rolling Stock Industry
327	Shipbuilding and Repair*
328	Boatbuilding and Repair ^a
331	Manufacturers of Small Electrical Appliances
332	Manufacturers of Major Appliances*

TABLE 5 (Continued)

SUMMARY CLASSIFICATION OF CLASS 3 INDUSTRIES:
BASED ON CLASSIFICATION OF INDUSTRIES

334	Manufacturers of Household Radio and Television Receivers*
338	Manufacturers of Electric Wire and Cable
339	Manufacturers of Miscellaneous Electrical Products ^a
343	Lime Manufacturers
351	Clay Products Manufacturers
352	Refractories Manufacturers
353	Stone Products Manufacturers
354	Mineral Wool Manufacturers
355	Asbestos Products*
357	Abrasives Manufacturers*
359	Other Non-Metallic Mineral Products
369	Other Petroleum and Coal Products
371	Explosives and Ammunition Manufacturers
374	Pharmaceuticals and Medicines ^a
376	Soap and Cleaning Compounds
377	Manufacturers of Toilet Preparations
379	Other Chemical Industries
382	Jewellery and Silverware
383	Broom, Brush and Mop Industry
384	Venetian Blind Manufacturers
393	Sporting Goods and Toy Industry
395	Fur Dressing and Dyeing
398	Typewriters, etc.
399	Miscellaneous Manufacturing Industries

Source: Hedlin, Menzies and Associates Ltd.

* No manufacturing activity in the prairie provinces in 1967.

^a Some commentary received during the review of this report suggested possible assured growth in these industries that might exceed 100 jobs by 1981. In each case, however, growth in excess of 400 jobs was not expected. Given the small magnitude of the potentials in question and lack of data for analysis, further research was not conducted.

TABLE 6

CLASS 3, PRAIRIE INDUSTRIES, EMPLOYMENT, 1967
AND EMPLOYMENT GROWTH PROSPECTS, 1971-1981

<u>Two-Digit Industry Group</u>	<u>Estimated Employment, 1967</u>		<u>Anticipated Growth</u>	
	<u>Class 3</u>	<u>Per Cent of Total</u>	<u>1971-1981</u>	
Food and Beverage	1,700	5.4	0 -	200
Tobacco Products	x	x	-	
Rubber	x	x	0 -	100
Leather	100	11.9	0 -	100
Textile	1,400	x	0 -	900
Knitting Mills	x	x	0 -	100
Clothing	450	5.2	-	
Wood	348	4.6	0 -	200
Furniture and Fixture	80	2.5	0 -	100
Paper and Allied	300	8.0 e	0 -	100
Printing, Publishing and Allied	-	-	-	
Primary Metals	200	3.5 e	-	
Metal Fabricating	1,030	9.3	0 -	200
Machinery	1,200	20.6	0 -	100
Transportation Equipment	900	14.0	0 -	200
Electrical Products	800	29.8	0 -	200
Non-Metallic Mineral	800	13.2	0 -	500
Petroleum and Coal Products	220	9.5	0 -	100
Chemicals and Chemical Products	900	23.3	0 -	500
Miscellaneous Manufacturing	2,000	x	0 -	300
All Prairie Manufacturing	12,478	10.9	0 -	3,900

Source: Appendix C

x = Confidential

- = Nil

e = Estimate

TABLE 7

GROWTH PROSPECTS IN PRAIRIE MANUFACTURING
EMPLOYMENT 1971-1981, BY 2 DIGIT INDUSTRY GROUPS

<u>Industry</u>	<u>1967 Employment</u>	<u>Anticipated Growth^a</u>	<u>Additional Growth Potential^b</u>
Food and Beverage	31,602	3,150 - 5,350	500 - 7,350
Tobacco Products	x	-	-
Rubber	x	600 - 800	-
Leather Goods	837	250 - 700	0 - 600
Textiles	1,483 S	0 - 1,000	150 - 200
Knitting Mills	x	0 - 100	-
Clothing	8,650	-1,000 - +3,000	0 - 7,000
Wood	7,518	3,050 - 4,700	-
Furniture and Fixtures	3,185	800 - 1,300	0 - 3,000
Paper and Allied	3,396 S	1,050 - 1,550	0 - 4,800
Printing, Publishing and Allied	9,013	1,200 - 1,500	-
Primary Metals	5,245 S	1,100 - 1,700	500 - 3,000
Metal Fabricating	11,612	4,700 - 7,850	-
Machinery	5,836	1,500 - 4,100	0 - 3,000
Transportation Equipment	6,426	950 - 4,500	-200 - +2,200
Electrical Products	2,686	700 - 1,200	-
Non-Metallic Mineral	6,050	2,050 - 3,300	400 - 600
Petroleum and Coal Products	2,304	150 - 350	-
Chemicals and Chemical Products	3,857	800 - 2,000	150 - 1,300
Miscellaneous Manufacturing	1,503 A	1,500 - 2,300	-
All Manufacturing	114,504	22,550 - 47,300	1,500 - 33,050

Source: Hedlin, Menzies and Associates Ltd.

^a Projected trends, assuming obstacles continue.

^b Possible additional growth if existing obstacles removed.

x = Confidential

- = Nil

S = Saskatchewan data excluded due to confidentiality.

A = Alberta data excluded due to confidentiality.

